DOCUMENT RESUME

ED 141 277 SP 011 115

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TITLE Redefining the Systems Space in Education.
PUB DATE Apr 77
NOTE 13p.; Paper presented at the Annual Meeting, American Educational Research Association (New York, New York, April 4-8, 1977)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Continuous Learning; *Educational Improvement; Educational Quality; *Educational Research; *Organizational Development; *Organizational Theories; Productive Living; *Social Structure; *Systems Approach

ABSTRACT

A systemic, holistic perspective is used in examining three challenges to the educational community today and in positing the idea of a societal organization of education for meeting these challenges. The problems identified--(1) improvement in the quality of education, (2) provision of life-long learning experiences, and (3) improvement in the quality of life--create a demand on formal education probably impossible to meet under existing conditions. The direction of responses to these challenges, and often the possibility of coming up with a solution, depends upon the view one takes of the problem--e.g., strictly economic, "basics only," alternative schools, etc. A systemic perspective, however, encompasses a macro-system view of education, directed toward identifying its components and interrelationships, thereby clarifying key entities around which the system should be organized. At the center of the system is the individual learner, and around this learner exist various domains facilitating his/her development: (1) the primary social system (family, peers, friends); (2) the formal educational system (various schools); (3) community educational systems (churches, agencies, cultural groups); (4) the communications system (press, TV, radio libraries); (5) the work system (public and private employment); and (6) ad hoc learning systems. A societal-level organization of these domains through informal and formal interorganizational arrangements would result in a manifold increase in educational potential, thus raising the possibility of solutions to existing educational challenges. (MB)

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ED141277

REDEFINING THE SYSTEMS SPACE IN EDUCATION

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SP 011 115

Presented at the 1977 Annual Meeting of the
American Education Research Association

The case is developed by (1) examining a problem area and in that area identifying a predicament that has motivated and invited the search for a solution; (2) introducing a perspective that we have chosen as a way of looking at the predicament and proposing the idea of a societal level organization of education.

I. THE PREDICAMENT: A THREE-PRONGED CHALLENGE

There is today a universal thrust toward the improvement of the human condition. Much of that thrust is expressed as the desire for a higher quality of life. The idea that education will have to assume increasingly more responsibility in that quest is almost universally accepted by those who understand that only through increasing our conceptual, technical, and human competence can we cope with the dynamic changes that continue to take place in science, technology, and communication; in our social, economic, and political organizations and arrangements; and in the worlds of work and leisure. At a more general level, the attainment of a greater degree of human competence constitutes a challenge of the first order to education and requires the availability of educational experiences that are of a higher quality than those that presently exist. As we review recent information about the present state of education, we become more concerned about our ability to meet this challenge. A five-year study by a "blue ribbon panel" concluded that current educational practices are "still pretty much grounded in the perception of the nineteenth century. While they have almost achieved

the Herculean task of providing universal education for all adolescents, the schools at the same time become isolated, too large, weak in teaching citizenship and values, and reduced to acting as 'baby-sitters' for the nation's young adults."*

Another challenge emerged as we understood that if education is to improve the quality of life and the human condition, it has to become a life-long and continuous venture. It thus becomes a way of life rather than a quest for a livelihood. Through life-long learning, we can strive to become a fully functioning person but cannot ever reach the limits of our human potential.

There is also a third challenge. There is a large domain in education that we might call quality-of-life education. We associate quality-of-life education with a renewed emphasis on moral and aesthetic education and the development of human competence in cooperative interaction with others. The quality-of-life education domain also includes such emerging fields as career education, education for environmental awareness and ethics, and education for generating public and private decision-making and problem solving competence relevant to energy use and conservation.

The three-pronged challenge--(1) improving the quality of education, (2) providing life-long learning experiences, and (3) addressing the quality of life domain--creates a demand on formal education or schooling that is probably impossible to meet under the existing conditions prevalent in education today. This is particularly so because an increase in demands of schooling is not matched by an increase of available resources. In fact, it

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* The Education of Adolescents, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

seems that rather than increasing--in terms of the interaction factor--the financial resources that are made available to schools are often decreasing. The three-pronged situation briefly characterized above is the major source of dilemma. Our schools are simply asked to do more with less.

II. THE PERSPECTIVE AND THE IMAGE

A problem or predicament may be addressed from many different perspectives. The direction of the solution--and often the possibility of coming up with a solution--depends upon the view that ones takes of the problem.

For example, one possible perspective might be a strictly economic one. This view might require assuming that a sizable increase of financial support given to schools will adequately address the problem and resolve the current predicament. Such a perspective might be supported by the notion that the attainment of quality education is important enough to warrant significantly more investment (in education).

During recent years, various perspectives have been articulated, including the delimitation of the school program in terms of "basics only," alternative models for schools, the "de-schooling" of the society, etc. Our perspective, however, is a systemic* or holistic one: (1) its scope encompasses a macro system view of education; (2) its quest is for identifying components of the macro system and their systemic relationships; and (3) it has an orientation toward clarifying the central or key entity around which the macro system of education is to be organized.

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* It incorporates the economic perspective as well as other viewpoints.

Education is more than schooling. The development of children and youth and the continuing development of adults intricately mesh with learning opportunities available in all facets of life. Beyond the boundaries of the school, formal and informal learning opportunities are offered in diverse ways: in the home; through the various media; in peer, neighborhood, civic and religious groups; through community, youth, and adult agencies; through private and public employers; and in many every-day life situations. For too long these educational efforts have been fragmented and separated from the school and from each other, even though ample evidence suggests that linkage and integration of like efforts may generate benefits well beyond that which the total sum of separate efforts might produce.

A powerful potential resides in the notion of an alliance of all societal sectors that are interested in and involved in education. Such an alliance, if formally constituted, could identify, integrate, and energize those forces and components of the society that jointly possess a vast reservoir of educational resources and opportunities and can facilitate the full development of the individual. Thus, our first perspective on the problem leads us to explore the creation of a macro-societal system of education in which educational resources, functions, and components would be shared among those sectors of the society that have the interest and capability to make educational contributions. In short, we would identify and integrate by design all educational opportunities and resources that are available in the society.

We define education as that domain of human activity that comprises all those arrangements, resources, situations, and opportunities that facilitate learning and development in children and youth, and continuing learning and development in the adult population.

In the past, whenever we looked at education in the broader sense suggested in the paragraph above, this approach would usually result in the conclusion that school should be extended in two possible ways. A more modest form of extension was to relate the subject matter presented in school to real life, thereby allowing students to make occasional excursions beyond the walls of the school, or bringing into the school representatives or representations of the outside world. A more dynamic interaction with the outside has emerged more recently through career education. This movement has gone a long way toward opening up the outside world as a learning territory and involving the private and public sector in the business of the school. However, we attempt here to define education even more broadly than it is conceptualized in the approaches described above. The macro-system that we envision has the capacity to integrate all forces and entities that can facilitate learning--including the school.

The entity or system that is at the center of the macro-system is the individual learner. Around the learner are systems that have the potential to make contributions to or facilitate the development of the individual. The system that is closest to the individual is informal in nature. It comprises the family, peers, friends, and generally those with whom the individual is in frequent and close contact. We call this system the Primary Social System; it has much to contribute to learning in an informal mode.

Formalized education--the various schools that are accessible to members of the society--constitute another system. In this system we would include all those societal organizations whose primary function is instruction. We call this Formal Educational Systems (Schools).

The third domain consists of a variety of educational agencies: youth organizations; the church; community education, civic, recreational, and

cultural groups, etc. These agencies offer a wide scope of educational resources. We call them Community Educational Agencies.

A fourth domain is a complex realm of many components that are sources of information and knowledge, expressions of the human experience, and are currently or may become learning resources. Examples of these components might be the press, TV and radio broadcasting, the many forms of art, cultural displays, libraries, etc. In a broad sense, all these aim to communicate something that might constitute viable resources and opportunities for learning. Thus, we call these components Communication Systems.

Another area of the human experience that has been a rich source of education is the Work System of the public and private employment sectors.

The systems mentioned above offer educational resources by the very nature of their purpose and existence. Beyond these there is still a large domain that includes life situations, events, and social groups that might offer educational resources in an ad-hoc way or as a secondary function. We call these Ad-Hoc Learning Systems.

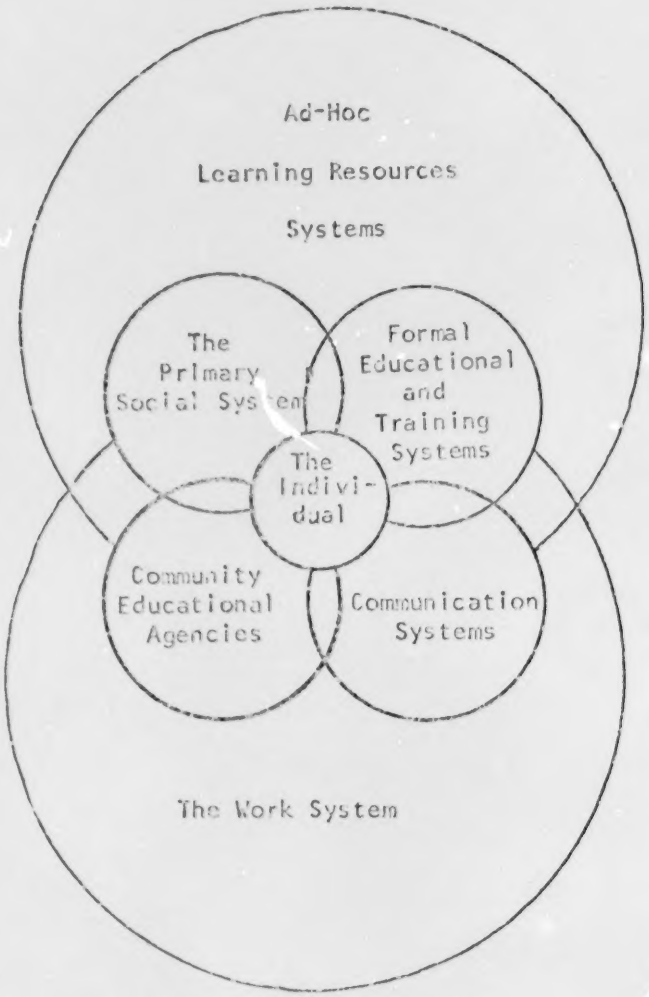
Figure 1, which follows, displays a map of the systems that might comprise an educational macro-system.

In developing the notion of the systems complex of the macro-system we took the position earlier that the learner is the key or central entity of the system. Accordingly, the system should be conceptualized, designed, and organized so that the learner will have easy and ready access to the educational resources and functions and the learning opportunities and situations that are potentially available in the various systems that comprise the macro-system. The main thrust in designing education at the societal (macro) level, therefore, will be the identification of functions and the functions-based creation of relationships (or structure) among the various component systems.

These systems can be placed in a directly cooperative and coordinated relationship so that they can respond to the learner's needs in the most effective and efficient way.

FIGURE 1

An Expanded Systems Space of Education



The perspective that we have taken in looking at the predicament has led us to generate the proposition that a societal-level organization of education, which can be accomplished through linkage and formalized interorganizational arrangements for cooperative and coordinated sharing of resources and functions among the various educational sectors of the society, will result in a manifold increase of educational potential.* Such potential will match the demand for quality education and quality-of-life education.

The outstanding issue--for which we cannot yet offer an experience base in education, nor even a knowledge base--is the consideration of how to link up the various educational sectors of the society in a formalized cooperative/coordinated arrangement so that education can be then defined and organized at a macro or societal level.

Another perspective we have taken in our examination originates from a systems-theory-based examination of education. Such an examination shows that education is a complex social system operating at various systems levels. Systems inquiry insists upon: (a) the specification of these levels, (b) the identification of one of these levels as the primary level, and (c) the definition of the key entities that are central to the systems operating at the various levels.

Traditionally, education has been defined at two levels: the institutional level and the instructional level. The systems operating at the institutional level is the school: the formalized societal arrangement of education. Educational goals and resources by which to implement goals are defined and managed at this level. Subordinate to this level is the

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* Recently, attempts have been made to link some of the educational sectors described above for educational purposes, such as vocational and career education. These efforts lack an explicit theory base and have not lead to a societal level organization of education.

instructional level. At this level, teachers act as the key entities and operate the classroom based system of instruction for the attainment of goals established at the institutional level. The kind of education scheme described above appeared to be appropriate for mass (compulsory) education, matching the assembly line and "melting pot" orientation of our early twentieth century industrial society.

The post-World War II emergence of the technological society, with its explosion of information and knowledge, has caused the development of variations in the classroom-based structure of the systems complex described above. New curriculum representations have emerged, coupled with instructional systems technology and media-oriented methodology, with some attention given to individual differences. Recently, however, the instituted variations appear to experience increasingly more difficulty as we (a) accept cultural pluralism as a viable societal arrangement, (b) experience diversification of life-styles, and (c) make a thrust for the increase of quality of life and the improvement of the human condition.

In the emerging new era an emphasis is placed on the unique fulfillment and development of the individual through life-long learning, on the development of cooperative interaction skills and quality-of-life education in addition to the development of cognitive and occupational competence. Accordingly, in the emerging educational systems complex of this new era, the learning experience level is the primary level and the learner becomes the key entity around which to build the educational system. This emerging image of education leads us back to the earlier articulated need for a societal level organization of education. Namely, the very moment we take seriously the proposition that the learning experience level is primary and the learner is the key entity, we have to recognize that we need to find ways to design and

implement as many learning systems as we have learners. Consequently, we are faced with requirements for a vastly larger set of educational (instructional and learning) resources, situations, arrangements, and opportunities that are now available in the schools. To institutionalize such a vast expansion in the existing organizational framework of the school would require a financial investment that appears to be beyond the means of our society which--in addition to education--has to invest its tax dollars in such other priority domains as national security, health and social services, energy development, etc. Thus, it seems that concurrent with the establishment and organization of the learning experience level, the notion of a societal level organization of education should be entertained.* We should seek out and activate all educational resources, situations, and arrangements that might be available to facilitate learning and coordinate the use of those resources through a societal level organization of a macro educational system.

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* The table on the next page displays an image of a systems complex of education organized at four levels.

TABLE 1

An Image of the Systems Complex of Education

A brief characterization of the four levels at which educational systems would operate

- The Societal Level, at which a Macro System of education is proposed which would link up the various sectors of the society through coordinated and cooperative arrangements for the sharing of their educational resources.

- The Institutional Level, at which the various formal and informal educational and other societal systems operate that have educational resources. These systems would be coordinated at the macro systems level for the sharing and thus a more effective use of their educational resources. These systems provide the policies, plans, structure, and arrangements required to administer and account for the use of educational resources at the instructional and learning experience levels.

- The Instructional Level, at which we plan, design, and develop instructional/learning arrangements, and make plans for the use of resources that would facilitate the learning and the development of the individual.

- The Learning Experience Level, which is the primary level of the systems complex, at which learner systems operate. These constitute the nucleus of the systems complex. Around the learner system are built the instructional systems, supported by the various educational sectors of the society that have the capability and resources to facilitate learning and that link up with each other to enhance the education of the individual and the society.